

Unit 2 Algebra II Assignment Sheet (H):

Systems of Equations/Matrices

Date	Day	Objective	Assignment
Wednesday 2/9 <i>Early Release</i>	1	<ul style="list-style-type: none"> Solving systems equations by graphing with & without the calculator Solving systems of 2 equations with 2 unknowns by substitution and elimination 	Unit 2 Day 1 Worksheet
Thursday 2/10	2	<ul style="list-style-type: none"> Linear Programming Part 1 	p. 138 exs 4, 6, 8
Friday 2/11	3	<ul style="list-style-type: none"> Linear Programming Part 2 	p. 139 exs 13 & 20
Monday 2/14	4	<ul style="list-style-type: none"> Review dimensions of matrices; equal matrices; adding & subtracting matrices; scalar multiplication Multiplication of matrices with & without the calculator Matrix Operations on the calculator & problems 	p. 182-183 # 2, 4, 6, 8, 12, 14, 16, 18
Tuesday 2/15	5	<ul style="list-style-type: none"> Matrix applications (using the calculator) 	p. 183-184 # 19, 50, 54
Wednesday 2/16	6	<ul style="list-style-type: none"> Determinants without a calculator (2x2s; 3x3s) Determinants on the calculator f(x) in determinants area of triangle using determinants Quiz 	Glencoe Practice Worksheet "4-4" Problems 1-12
Thursday 2/17	7	<ul style="list-style-type: none"> Identity and inverse matrices Solve systems using inverse matrices with & without a calculator (2x2s; 3x3s) 	Worksheet # 1 - 17
Friday 2/18	8	<ul style="list-style-type: none"> Coding/decoding Day 	HW Worksheet # 1-6
Monday 2/21	9	<ul style="list-style-type: none"> Wheel of Fortune Solving word problems/applications 	Word Problems Worksheet exs 1-5
Tuesday 2/22	10	<ul style="list-style-type: none"> Review 	Finish review sheet & study
Wednesday 2/23	11	<ul style="list-style-type: none"> Unit 2 Test 	

Unit 2 Matrices Notes

Dimensions (row x column)

$$A = \begin{bmatrix} 2 & -1 \\ 3 & 5 \\ 7 & 8 \end{bmatrix} \quad \text{is a } 3 \times 2$$

Adding & subtracting matrices: must have the same dimensions
(just add corresponding elements)

$$\text{Ex.} \quad \begin{bmatrix} 4 & -1 & 3 \\ 2 & 7 & 0 \end{bmatrix} + \begin{bmatrix} 5 & 0 & -2 \\ 8 & 10 & -9 \end{bmatrix} = \begin{bmatrix} 9 & -1 & 1 \\ 10 & 17 & -9 \end{bmatrix}$$

Scalar multiplication: multiply a constant by the matrix
(just distribute the constant times each element)

$$\text{Ex.} \quad -3 \begin{bmatrix} 1 & -4 \\ 7 & 3 \\ 8 & -6 \end{bmatrix} = \begin{bmatrix} -3 & 12 \\ -21 & -9 \\ -24 & 18 \end{bmatrix}$$

Multiplying Matrices: # of columns in the first matrix = # rows in the second matrix

$$A_{2 \times 3} \bullet B_{3 \times 7} = C_{2 \times 7} \quad \text{multiply row by column (adding the products)}$$

MADS: when multiplying, add when doing determinants, subtract

Determinants: (for square matrices only where # rows = # columns)

Calculating 2x2 determinants:

$$\begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc \quad \text{Ex.} \quad \begin{vmatrix} -3 & 2 \\ 4 & 5 \end{vmatrix} = (-3)(5) - (2)(4) = -15 - 8 = -23$$

Calculating 3x3 determinants (easier to do on the calculator)

Press **MATRIX**: (on 83s)

Right arrow to **EDIT**

Press **ENTER**

Change the dimensions of A to a 3x3

Enter the numbers

Press **2nd** **MODE** (QUIT)

Press **MATRIX**

Right arrow to **MATH**

Press enter to select det(

Press **MATRIX**

Down arrow to the correct matrix (A in our case)

Press **ENTER**

Press **ENTER** again

The correct value should appear on the right.